

CLAIMS:

1. Polyvinyl alcohol binder fibers having a cross-section circularity of at most 30 %, a degree of swelling in water at 30°C of at least 100 %, and a degree of dissolution in water of at most 20 %.

2. Polyvinyl alcohol binder fibers as claimed in claim 1, which have a flattened cross-sectional profile, and satisfy $A/B \geq 3$ and $0.6 \leq C/B \leq 1.2$;

wherein

A indicates the length of the major side of the cross section,

B indicates the thickness of the center ($1/2A$) of the major side, and

C indicates the thickness of the part of $1/4A$ from the end of the major side.

3. Polyvinyl alcohol binder fibers as claimed in claim 2, wherein the thickness B of the center ($1/2A$) of the major side of the cross section is at most 6 μm .

4. Polyvinyl alcohol binder fibers as claimed in claim 1, wherein the polyvinyl alcohol resin is copolymerized with from 0.1 to 15 mol% of one or more compounds having one or more groups selected from the group consisting of a carboxylic acid group, a sulfonic acid group, an ethylene group, a silane group, a silanol group, an amine group and an ammonium group.

5. Polyvinyl alcohol binder fibers as claimed in claim 1, wherein the single-fiber mean fineness of the fibers is 0.01 to 50 dtex.

6. A paper or a nonwoven fabric, comprising:

from 1 to 50 % by mass of the polyvinyl alcohol binder fibers of claim 1.

7. The paper or nonwoven fabric as claimed in claim 6, which have a flattened cross-sectional profile, and satisfy $A/B \geq 3$ and $0.6 \leq C/B \leq 1.2$;

wherein

A indicates the length of the major side of the cross section,

B indicates the thickness of the center ($1/2A$) of the major side, and

C indicates the thickness of the part of $1/4A$ from the end of the major side.

8. The paper or nonwoven fabric as claimed in claim 8, wherein the thickness B of the center (1/2A) of the major side of the cross section is at most 6 μm .

9. The paper or nonwoven fabric as claimed in claim 6, wherein the polyvinyl alcohol resin is copolymerized with from 0.1 to 15 mol% of one or more compounds having one or more groups selected from the group consisting of a carboxylic acid group, a sulfonic acid group, an ethylene group, a silane group, a silanol group, an amine group and an ammonium group.

10. The paper or nonwoven fabric as claimed in claim 6, wherein the single-fiber mean fineness of the fibers is 0.01 to 50 dtex.

11. A method for producing the polyvinyl alcohol binder fibers as claimed in claim 1, comprising:

dissolving a polyvinyl alcohol resin in water to prepare a spinning solution having a polymer concentration of from 8 to 18 % by mass,

spinning said solution into fibers in a coagulation bath that contains an aqueous solution of a salt having the ability to coagulate the resin,

drawing the fibers by 2 to 5 times in wet, and

drying the fibers.

12. The method as claimed in claim 11, wherein said salt having the ability to coagulate the resin is sodium sulfate, ammonium sulfate or sodium carbonate.